# PUBLIC INFRASTRUCTURE

## INTRODUCTION

Public infrastructure is the term used to describe the basic facilities, equipment, services and installations needed for the growth and functioning of a community. Because public infrastructure is so important in determining the timing, location, and intensity of private development, it serves as a valuable tool for master plan implementation.

The principal responsibility for infrastructure in Baltimore County lies with the Department of Public Works. The department's mission is to plan, provide, maintain, and expand public infrastructure systems serving the residents of Baltimore County in the safest, most efficient, and cost effective manner possible. Because the county is aging, infrastructure needs have shifted from construction of new facilities to maintenance of existing facilities. Major areas of responsibility of the Department of Public Works include:

- developing, maintaining, and upgrading the transportation network;
- providing for adequate water supply and sewerage service;
- providing adequate storm drain systems; and
- managing solid waste.

## POLICIES

- Continue to ensure the maintenance of existing facilities when determining budget priorities.
- Give priority to community conservation areas when implementing improvements.
- Provide public facilities in a timely manner to support development in the growth areas and employment centers.
- Computerize Department of Public Works processes to accomplish preventive maintenance more efficiently.
- Promote solid waste reduction, recycling, and resource recovery to minimize the need for landfilling, and to extend the useful life of the Eastern Sanitary Landfill Solid Waste Management Facility.

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## ISSUES AND ACTIONS

Issues and actions are discussed below by major infrastructure type.

## WATER AND SEWER

### Water Supply System

The Baltimore County water supply system is an extension of the metropolitan water system serving Baltimore City. There are three sources of water: the Gunpowder River, which supplies the Prettyboy and Loch Raven reservoirs; the North Branch of the Patapsco River, which supplies the Liberty Reservoir; and the Susquehanna River. Water drawn from the three reservoirs is treated at the Montebello and Ashburton filtration plants, and then distributed to county consumers (Map 16). Susquehanna River water is used only on an emergency basis.

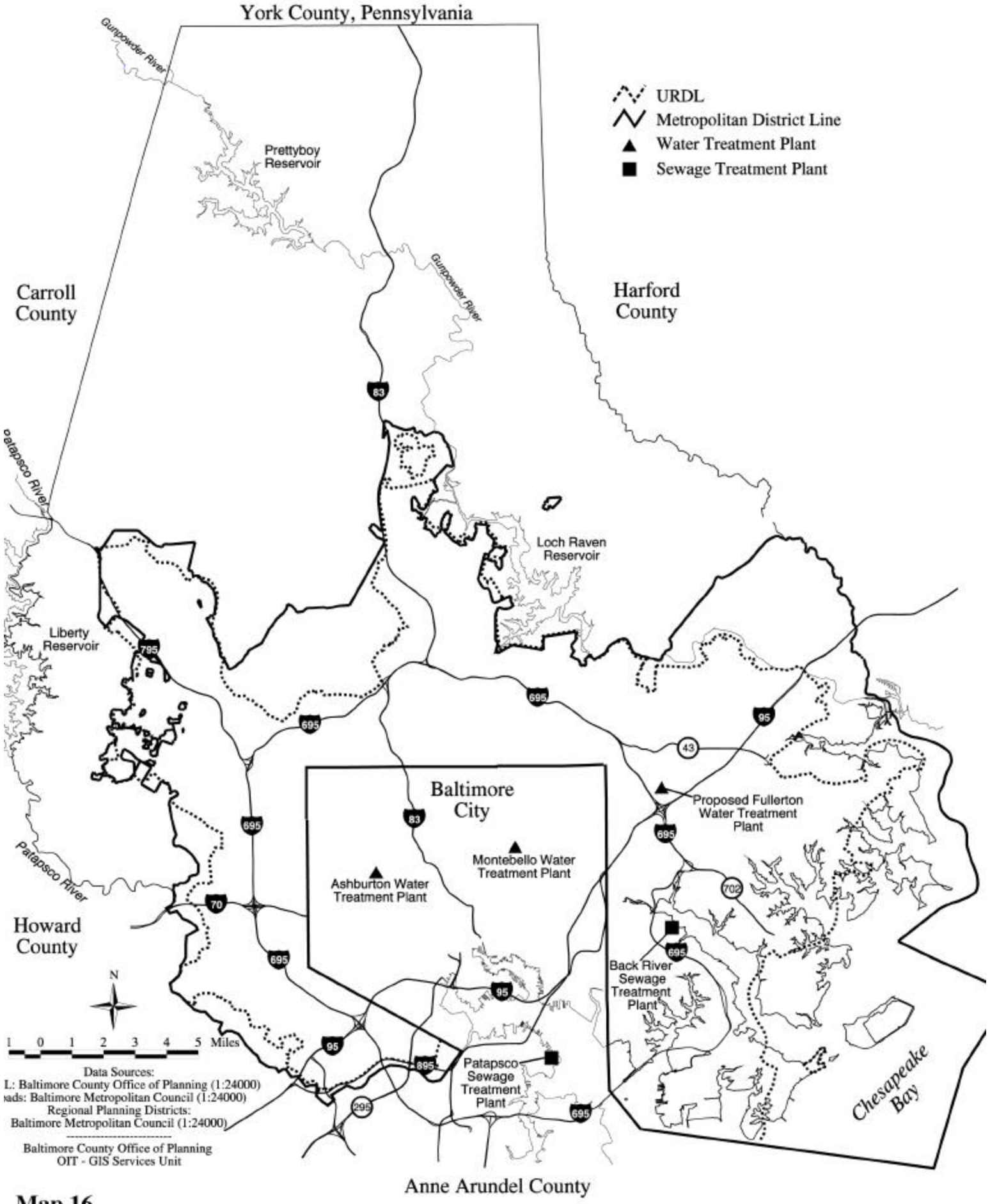
Baltimore County has another viable source of water supply, the prolific aquifer that exists within the geologic formation known as the Cockeysville Marble. This source of high quality water has been recognized as a natural resource worth protecting. In 1975, Baltimore County identified this aquifer as an area of critical state concern. Should the county ever be in a situation that would require it to find its own source of water, the Cockeysville formation will be its primary source. It is imperative that we protect this natural resource through a variety of techniques, including limiting the use of septic systems, modifying land use regulations to prevent uses which may have adverse impact on the aquifer, and educating property owners who own land over the Cockeysville marble formation.

***It is imperative that we protect the Cockeysville aquifer by limiting the use of septic systems, modifying land use regulations, and educating property owners.***

There are 13 distinct zones of water service. They are linked together by a series of pumping stations, transmission mains, storage reservoirs, and elevated tanks. Baltimore County now uses about 99 million gallons a day from the Baltimore system. About 30% of the consumption is used by commerce and industry. Residential consumption accounts for the remaining 70%. The system also supplies water for fire protection.

### Sewer System

Baltimore County constructs, operates and maintains all sewage collection and pumping facilities within the county. There are 22 sewersheds that are divided into 80 sub-sewersheds. Baltimore County operates 104 pumping stations and one very small treatment plant at Richlyn Manor. County-generated sewage is treated at two Baltimore City-owned and operated waste water treatment plants, at the Back River Treatment Plant near Essex and the Patapsco Treatment Plant at Wagners Point in South Baltimore.




**Map 16**
**Water Supply and Sewerage System**

**The Metropolitan District**

The Metropolitan District of Baltimore County is both the geographic area within which public water and sewer services are provided, and the quasi-public corporation through which public utility services are financed and managed. It was established pursuant to the Metropolitan District Act (*Acts of the General Assembly of Maryland of 1924, Chapter 539, as Amended*), and operates according to the provisions of Title 35, Article IV of the *Baltimore County Code, 1988, as Amended*. The county does not have a legal mechanism to finance public water and sewer utilities outside the district.

Adjacent property owners outside the boundary of the Metropolitan District who wish to receive public water and sewer service may petition to be included in the district. The Baltimore County Council may, upon recommendation by the County Executive and subject to the approval of the mayor and city council of Baltimore, extend the Metropolitan District boundary to include the petitioner's locality. Under the terms of the Metropolitan District Act, Baltimore City and Baltimore County share the cost of constructing and maintaining the utility system with neither party gaining a profit from the other.

The county's water and sewer master plan, *Baltimore County Water Supply and Sewerage Plan 1990-2000*, designates areas of existing and future water and sewer service. It is reviewed every three years to ensure that the designated areas are consistent with the county's comprehensive land use plan.

***The county's aging water and sewer infrastructure will require extensive and innovative rehabilitation efforts.***

The county's focus has shifted from the installation of new systems to the maintenance and upgrading of existing systems. In future years, the county's aging water and sewer infrastructure will require extensive and innovative rehabilitation efforts both to provide a level of service that meets customer demand and to extend the service life of the systems.

**Issue: Concurrently Updating the Water and Sewer Master Plan and the Baltimore County Master Plan**

Because of the close relationship between the two plans, updating the plans concurrently will expedite the approval process and reduce unnecessary paperwork.

**Actions**

1. Enact legislation whereby adopting either the water and sewer master plan or the Baltimore County master plan will automatically update the complementary plan when referenced.
2. Coordinate the timing of the two plans.

**Issue: Moving the Metropolitan District Line to Match the URDL**

There are a few locations where the adopted urban rural demarcation line (URDL), the county's growth boundary, does not coincide with the Metropolitan District boundary. The two boundaries serve the same purpose, and the discrepancy leads to confusion. Additional confusion is caused by the fact that in the southwest area of the county the Patapsco Valley State Park is located inside the URDL line. This is a State-owned and State-operated area which does not logically belong in the urban-designated area of the county. Accordingly, the URDL line should be moved to the northern border of the Patapsco Valley State Park so that the park is identified as being outside the URDL and therefore in the rural area of the county. In addition, consideration should be given to changing the zoning of the park land from DR to RC.

**Action**

Consider the benefits of enacting legislation to move the Metropolitan District line to coincide with the URDL.

**Issue: Improving Water and Sewer Service**

In the coming years, the county will focus on maintenance and upgrading of the existing water and sewer infrastructure. Some system improvements are necessary to provide improved reliability of service. There are, however, several communities within the URDL that do not have public water and sewer service. Extending public utilities to these communities should be a high priority, especially where wells or septic systems are failing.

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**Actions**

1. Continue upgrading the sewerage pump stations to increase capacity and improve reliability and energy efficiency. Effectively monitor the pump stations for malfunctions.
2. Rehabilitate and replace sewer pipelines and manholes as needed. Use high technology analytical tools to determine the optimal expenditure of resources.
3. Expand testing for sources of ground water inflow and infiltration that reduce the sewerage system's capacity during wet weather conditions.

Use test results to make repairs and thereby increase system efficiency and capacity.

4. Increase the frequency of sewer main cleaning to clear away roots, sludge and grease in order to maintain a fully functional conveyance system, reduce sewerage back-ups, and to provide a means of detecting early signs of structural failures.
5. Develop a major water purification and storage facility in Fullerton, which will complete the system of water treatment plants for the metropolitan system.
6. Expand the water main cleaning and lining program to prevent or correct "water line constrictions" (obstructions that reduce water volume and water pressure) in older pipes. Newer pipes are constructed with special linings that prevent constrictions from forming.
7. Continue to extend public utilities to all unserved communities within the URDL, giving highest priority to those areas that have failing wells or septic systems.
8. Ensure that sewer extensions to correct failing septic areas outside the URDL only address existing problems and do not stimulate growth and development.

**SOLID WASTE**

Baltimore County's solid waste management responsibilities include:

- providing weekly recycling and refuse collections for 220,000 households, and biweekly yard waste recycling collections from April through December to 70% of these households;
- managing the county's waste reduction, recycling and composting programs;
- mechanically sweeping streets, curbs, and gutters;
- operating the active Eastern Sanitary Landfill Solid Waste Management Facility, which includes a transfer station, yard waste composting and mulching operation, and a residential drop-off and recycling center, as well as properly maintaining county-owned closed sanitary landfills;
- overseeing operation of the two solid waste facilities operated by the Maryland Environmental Service: Western Acceptance Facility (WAF) in Halethorpe and Baltimore County Resource Recovery Facility (BCRRF) in Cockeysville, both of which are transfer stations and include residential drop-off centers. BCRRF also has a materials recovery facility for recyclable paper, bottles, and cans, as well as a paper baler;

*The Eastern Sanitary Landfill Solid Waste Management Facility is one of three active solid waste facilities in the county.*

- coordinating with the Northeast Maryland Waste Disposal Authority in overseeing the operation of the Southwest Resource Recovery Facility, a waste to energy facility located in Baltimore City and operated by BRESCO (Baltimore Refuse to Energy System Company);
- preparing and updating the county's recycling plan and solid waste management plan; and
- coordinating with other jurisdictions to formulate regional solid waste management and recycling plans.

**Issue: Improving Refuse and Recycling Collection**

The visual appearance and positive image of a community can be adversely affected by litter or refuse in streets and alleys, or by bulk trash left in yards and along roadways. Trash and refuse can also pose safety hazards and cause environmental damage. Effective partnerships with citizens can help to mitigate these conditions.

**Actions**

1. Work with community groups and volunteers to support communities with programs such as Community Clean Up and Adopt a Road.
2. Improve the street sweeping program by:
   - maintaining the "night sweeping" program to include parking lots and entrances of county-owned properties; and
   - establishing a permanent location for the sweeping crew that serves the eastern area of the county in order to reduce street sweeper travel distance and to have a dedicated facility for vehicle maintenance.
3. Conduct grasscycling campaigns and sponsor compost bin sales.
4. Conduct public education campaigns to promote recycling, including distributions of four year collection schedules.
5. Conduct appropriate public outreach activities that give residents, businesses, and schools a better understanding of solid waste management and encourage recycling and waste prevention to minimize what is being disposed of.
6. Participate in the coordination of regional solid waste and recycling initiatives, organizations and policies.
7. Continue striving to maximize the effectiveness and fiscal soundness of recycling programs.

***The county will conduct public education campaigns to promote recycling.***

**Issue: Ensuring the Efficient Management of the Eastern Sanitary Landfill Solid Waste Management Facility**

Eastern Sanitary Landfill, located north of Bird River, is the only active sanitary landfill in Baltimore County. The landfill is operated in compliance with state regulations to protect the public health and the natural environment. The Department of Public Works will continue to try to extend the useful life of the landfill by transporting solid waste out-of-state. When the landfill reaches final grade, it may be possible to use the closed areas for other purposes. County government will continue to be responsible for its maintenance.

**Actions**

1. Continue to transport waste from all three transfer operations to out of region commercial disposal facilities so long as it is economically feasible.
2. Develop a final use plan, in conjunction with neighboring communities, for those portions of the site that have reached final grade.

**Issue: Closed Landfill Opportunities**

Baltimore County has closed landfill sites, some of which are under the direction of the Department of Recreation and Parks (Southwest Area Park, Batavia) and the Revenue Authority (Longview Golf Course). Two sites, which are essentially open space at this time, are the Hernwood (295 acres) and Parkton (204 acres) sites, both of which are being monitored and in the process of being closed by the Department of Public Works. These sites will be available for future recreational use. The Texas Landfill is presently being used for parking, open-top transfer, and storage. It will be available for public works staging or the possible relocation and enlargement of the existing residents' acceptance facility and recycling drop off center located on Recycle Way.

***Closed landfill sites will be available for future recreational use.***

**Action**

Continue to place closed landfill sites into productive use.

**STREETS AND BRIDGES**

**Issue: Improving the Street and Bridge Program**

As part of the streets and bridges infrastructure program, the Department of Public Works design division has responsibility for 2,500 miles of roadway, 131 miles of alleys, 1,900 miles of curbs and gutters, 1,500 miles of sidewalks, 423 bridges, 35,000 streetlights, 87,000 traffic signs and 381 traffic signals.

Continuing shifts in traffic patterns, accompanied by population changes, and the deterioration of older infrastructure, necessitate a continual improvement program, which is also managed by the department through design and construction contracts. The objectives of the program are to improve the livability of communities by making streets pedestrian friendly, maintaining traffic flow at desired speeds, correcting safety problems, alleviating deficient transportation areas, providing adequate access to designated new growth areas, and upgrading deteriorating infrastructure.

**Actions**

1. Integrate the findings of traffic studies by the Department of Public Works into the planning and design of new facilities and the rehabilitation of existing facilities.
2. Develop a system to identify pavement safety deficiencies through accident analysis, skid monitoring, and geometric assessment (analysis of the street grade).
3. Establish a computerized maintenance management system to identify damaged or worn pavement in need of repair.
4. Continue to assess, prioritize, and reconstruct deteriorated alleys.
5. Establish a program for neighborhood traffic management, which may allow communities to petition for the installation of traffic calming devices.
6. Establish a preventive maintenance management procedure for bridges.
7. Consider the overall condition of a bridge rather than just the load carrying capacity in prioritizing bridge rehabilitation projects.
8. Continue to implement a computerized sign management system to monitor the condition of street signs, so signs that have been damaged or removed can be replaced.
9. Review and assess street lighting policies with the goals of reducing accidents and increasing a sense of security, taking into account the nature of the area.
10. Involve communities when lighting or street and bridge projects are proposed in their area.

*The county will continue to assess and reconstruct deteriorated alleys.*

**STORM DRAINAGE**

The Baltimore County storm drain system is composed of 3,765,000 linear feet of storm drains, 14,000 inlets and 900 storm water management ponds. This system reduces the flooding of homes and streets, prevents damage to private property and reduces the problem of tidal siltation.

**Issue: Develop Programs to Ensure Adequate Storm Drainage**

Baltimore County will develop programs to ensure that an adequate storm drainage system is in place and maintained for those areas deemed a county responsibility. Innovative programs that benefit communities and homeowners will be developed.

**Actions**

1. Develop a written set of criteria for determining when drainage problems are a county responsibility.
2. Develop a process to allow communities to petition for storm drain improvements.
3. Develop a program for floodproofing homes in lieu of undertaking capital projects for expensive storm drainage improvements.
4. Increase the frequency of cleaning storm drains and inlets to improve drainage system reliability during storms.